

# Accelerating student success with advanced geospatial technology

## | V. N. Karazin Kharkiv National University | Ukraine

Kharkiv, Ukraine, is steeped in vibrant history and culture, dating back to 1654. Situated near the northeastern border of Ukraine, the city lies at the convergence of three rivers and several railways, making it a major communications center for the

country. Kharkiv is also Ukraine's second-most populous city, with nearly 1.5 million residents. The city's main industries are science, engineering and education and is home to one of the country's leading universities, V. N. Karazin Kharkiv National University.



**V. N. KARAZIN KHARKIV  
NATIONAL UNIVERSITY**



V. N. Karazin Kharkiv National University has over 20,000 students and 115 majors, and its motto “To learn. To teach. To enlighten.” is demonstrated throughout its programs. This motto is especially true for the Department of Physical Geography and Cartography, where students utilize ERDAS IMAGINE, Hexagon’s leading geospatial data authoring system, during their Earth Remote Sensing course. The university chose Hexagon’s solution in 2020 through Hexagon’s Education Program, which was coordinated by Hexagon partner Softprom. The program provides students with software licenses to practice processing open remote sensing data.

## Practical knowledge for real world application

Prior to the implementation of ERDAS IMAGINE in its coursework, the department used open-source software that inconveniently executed simple operations, and results were unpredictable. When searching for a partner, the university needed a reputable software solution that was modern and functional, as well as a supportive program that offers a beneficial licensing policy for institutions.

Replacing the existing software with Hexagon’s solution improved the overall quality of students’ professional qualifications. The university determined that utilizing ERDAS IMAGINE in the classroom has given students practical, relevant knowledge and skills for their future careers and a competitive advantage upon graduating.

Students pursuing degrees in geography take the Earth Remote Sensing course in their second year. Throughout the course, they focus on the basics of processing open remote sensing data. This gets students acquainted with the principles and techniques of image processing using ERDAS IMAGINE. With Hexagon’s solution, students learn how to improve the spectral resolution of images, pansharpener, use AOI to crop images, unmanage image classification using the K-Means algorithm, visualize and process point clouds and more.

“Getting a product of this caliber with support through Hexagon’s Education Program significantly improved the quality of teaching and content compared to previous solutions,” said Vladyslav Popov, head of the GIS and remote sensing lab at V. N. Karazin Kharkiv National University.

## ‘A reliable and friendly educational partner’

When choosing an image processing solution, the department focused on two major objectives: a functional and convenient interface and a supportive program. Instructors also wanted a solution that supported all image formats.

With ERDAS IMAGINE, students no longer navigate overloaded interfaces, which is imperative for geographical and engineering specialties. In addition to this, Hexagon’s Education Program offered the university limited versions of the software, giving students access to the software’s basic tools for visual and automatic image analysis.

Hexagon worked with the university throughout every step of implementation and has continued to support students during the Russia-Ukraine war. Access to the curriculum and ERDAS IMAGINE prevailed even after students were forced to evacuate due to the invasion in Ukraine.

“In the future, we would like to expand the use of ERDAS IMAGINE in more training courses and student projects,” said Popov. “We recommend Hexagon to other organizations looking for a reliable and friendly educational partner. In the specific field of remote sensing and image processing, ERDAS IMAGINE is a market-leading tool in terms of functionality and is an absolute leader in ease of use.”



**In the specific field of remote sensing and image processing, ERDAS IMAGINE is a market-leading tool in terms of functionality and is an absolute leader in ease of use.”**

**Vladyslav Popov**

Head of the GIS and Remote Sensing Lab  
V. N. Karazin Kharkiv National University

Hexagon is the global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications. Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon’s Safety, Infrastructure & Geospatial division improves the resilience and sustainability of the world’s critical services and infrastructure. Our solutions turn complex data about people, places and assets into meaningful information and capabilities for better, faster decision-making in public safety, utilities, defense, transportation and government. Learn more at [hexagon.com](https://www.hexagon.com) and follow us [@HexagonAB](https://twitter.com/HexagonAB).

© 2023 Hexagon AB and/or its subsidiaries and affiliates. All rights reserved. Hexagon is a registered trademark. All other trademarks or service marks used herein are property of their respective owners. 09/23